REMARKS

Claims 1-16 are pending and stand rejected. In light of the following remarks, Applicants respectfully request reconsideration and allowance of claims 1-16.

Foreign Priority

The Examiner asserted that Applicants have not submitted English translations of PCT/EP02/09750, of which the present application is a § 371 application, and DE10242076.9, from which the present application claims priority. Applicants note that an English translation of PCT/EP02/09750 was filed on March 11, 2005. Applicants are working to obtain a certified copy of DE10242076.9.

Drawings

The Examiner maintained the objection to the drawings as allegedly failing to comply with 37 C.F.R. § 1.84(p)(4), asserting that the reference "Figure 3" was used to designate both "NH_2 and CHO/COOH coupling reactions" and "SH coupling reactions." Applicants refer the Examiner to the replacement drawings submitted on August 4, 2008, in which the occurrences of "Fig. 3" were replaced with "Fig. 3.1" and "Fig. 3.2." In light of the formal drawings submitted on August 4, 2008, Applicants respectfully request withdrawal of the objection to the drawings.

Rejection under 35 U.S.C. § 112

The Examiner maintained the rejection of claim 11 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. The Examiner alleged that the metes and bounds of the phrase "other types of clinically relevant reactions to immediate-type allergens" in claim 11 cannot be determined. The Examiner further asserted that Applicants' statements filed on August 4, 2008 were not persuasive because the language in the specification (e.g., at page 1, lines 16-33, and page 15, lines 9-14) "appears to include allergens that are beyond that which is supported by the instant specification."

Applicants respectfully disagree. As noted in the response filed on August 4, 2008, Applicants' specification at page 1, lines 16-33, and page 15, lines 9-14 clearly disclose that the phrase "other types of clinically relevant reactions to immediate-type allergens" includes, for

example, pollen, mites, mammalian hair, saliva, fungi, insects, foods, and natural rubber/latex. In particular, the Examiner's attention is kindly drawn to page 1, lines 16-18, which further defines this term:

"Compounds referred to as allergens are accordingly those able to induce an allergic immune response, in the narrower sense an immediate-type allergic immune response (type I), on the skin and mucosa." (Emphasis added.)

Further information in this context is provided at page 1, lines 29-30:

"IgE-mediated immediate-type allergens (type I) are the form of allergic reactions with by far the greatest prevalence." (Emphasis added.)

Finally, another definition can be found at page 6, lines 2-7:

> "The compounds referred to as allergens for the purposes of the present invention are primarily those able to induce allergic immune responses, in the narrower sense IgE-mediated hypersensitivity reactions (type I). Also included are peptides derived from the sequence of an allergen, such as, for example, cleavage products resulting from enzymatic cleavages." (Emphasis added.)

In view of the clear explanation provided by Applicants' specification, a person of skill in the art would have understood the metes and bounds of the term "immediate-type allergen."

Further, this term is well-known in the art. To substantiate this fact, Applicants submit herewith an extract from the textbook Immunobiology, Janeway, Travers, Walport, and Shlomchik, eds., 2001, Garland Publishing (Exhibit A). Figure 12.2 at page 472 of this reference illustrates the different types of allergies. In this figure, a type I allergen is clearly defined as an allergen that is capable of inducing IgE-mediated immune responses, whereas other types of allergens induce immune responses mediated either by IgG or T-cells. In addition, the last sentence of the first paragraph at page 472 gives a clear definition of the term:

"Allergy is often equated with **type I** hypersensitivity (**immediate type** hypersensitivity reactions mediated by IgE), and will be used in this sense here." (Emphasis added.)

Thus, it would have been apparent to a person of skill in the art at the time of Applicants' priority date that the phrase "reactions to immediate-type allergens" is a synonym for IgE-mediated hypersensitivity reactions. Applicants emphasize that this is a distinguishing feature, since other allergens would mediate different types of allergies. For example, Ni- ions are

known to induce a contact dermatitis (type IV) allergy, and drugs such as penicillin are known to induce type II allergies (*see*, e.g., Figure 12.2 of the attached Immunobiology reference).

For at least these reasons, the metes and bounds of present claim 11 are clear. As such, Applicants respectfully request withdrawal of the rejection of claim 11 under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 6, 8-13 and 16 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No 5,952,347 (the Arison et al. patent). The Examiner asserted that the Arison et al. patent discloses a quinoline leukotriene antagonist that can be bound covalently to a macromolecule such as a hydroxyalkylstarch base ester, where the compound can be used for treating asthma and allergies. The Examiner further alleged that "the of treating asthma and allergies of the Arison et al. patent anticipates that instantly claimed method for treatment of allergy comprising administering a conjugate of hydroxyalkylstarch and an allergen to an allergy sufferer.

Applicants respectfully disagree. As set forth in M.P.E.P. § 2131, for example, a claim is anticipated under § 102 only if each and every limitation is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 639 (Fed. Cir. 1989). The Arison et al. patent fails to meet this standard.

The presently claimed methods recite a method for treatment of allergy by hyposensitization, comprising administering a conjugate of hydroxyalkylstarch and an allergen to an allergy sufferer, wherein at least one hydroxyalkylstarch is covalently coupled to the allergen. The Arison et al. patent discloses a method that comprises administering to a mammal a quinoline leukotriene antagonist that may be covalently bound to a hydroxyalkylstarch-based ester. In contrast to the present claims, the quinoline leukotriene antagonist of Arison et al. is not an allergen. Further, even if the quinoline leukotriene antagonist was an allergen, it would lead to a type II allergy (*see*, e.g., Figure 12.2 of the Immunobiology reference discussed above), whereas the presently recited allergen is defined to be a type I allergen (*see*, e.g., page 6, lines 2-7 of Applicants' specification, as discussed above).

Moreover, the Arison et al. patent relates to administering a quinoline leukotriene antagonist to treat asthma, allergies, or inflammation. In this context, it is noted that quinoline leukotrienes are inflammatory mediators secreted by effector cells such as mast cells, granulocytes and/or macrophages upon activation. Consequently, the Arison et al. patent relates to methods for easing symptoms that originate from an allergic reaction or inflammation, whereas the present claims recite methods for treating allergies by hyposensitization.

For at least these reasons, the presently claimed methods are novel over the Arison et al. patent. As such, Applicants respectfully request withdrawal of the rejection of claims 1, 2, 6, 8-13 and 16 under 35 U.S.C. § 102(b).

Rejection under 35 U.S.C. § 103

The Examiner rejected claims 1-16 under 35 U.S.C. § 103(a) as allegedly being unpatentable over the Arison et al. patent in view of US Patent No. 5,218,108 (the Sommermeyer et al. patent). The Examiner asserted that the presently claimed method differs from the description of the Arison et al. patent by further specifying the type and properties of hydroxyalkylstarch, but that the Sommermeyer et al. patent discloses that the claimed types and properties of HAS were "well known in the art." The Examiner further alleged that it would have been obvious to a person of ordinary skill in the art to combine the teachings of the cited patents, and to replace the HAS used to treat asthma and allergies in the Arison et al. patent with a hydroxyalkylstarch having specific properties as evidenced by the Sommermeyer et al. patent.

Applicants respectfully disagree. As discussed above, the Arison et al. patent discloses administration of a quinoline leukotrine antagonist to relieve symptoms of asthma, allergies, or inflammation. The Arison et al. patent fails to suggest a method of treatment as recited in the present claims. For example, at no point does the Arison et al. patent suggest a method for hyposensitization, or a method for treatment with an immediate-type allergen.

Page 1, line 31 to page 2, line 13 of Applicants' specification discusses the treatment of allergies by hyposensitization:

> Allergy sufferers are currently treated in addition to pharmacotherapy by specific immunotherapy, called hyposensitization (Kleine-Tebbe et al., Pneumologie, Vol. 5 (2001), 438-444). In conventional hyposensitization, a specific allergen extract is administered subcutaneously in increasing quantities until an individual

> maintenance dose is reached. As the treatment is continued, this dose is administered repeatedly, various treatment protocols being employed (Klikmek et al., Allergologie und Umweltmedizin, Schattauer Verlag, page 158 et seq.). [...] The therapy is regarded as successful if the allergic symptoms are reduced, leading to an individual decline in the requirement for medicines and an increase in the tolerance of the allergen. (Emphasis added.)

Importantly, with hyposensitization the cause is treated rather than the symptoms. Thus, the method of treatment disclosed by the Arison et al. patent is significantly different from that recited in the present claims, as they are mediated by completely different mechanisms.

Since the Arison et al. patent does not relate to hyposensitization or the administration of any allergen, much less an immediate-type allergen, a person of ordinary skill in the art at the time of Applicants' priority date would not have considered the teachings of this document to be relevant to the presently claimed methods.

The Sommermeyer et al. patent discloses a hydroxyethyl starch for use as plasma expander, and processes for preparing same. This patent is completely silent with regard to hyposensitization and the coupling of allergens to hydroxyalkylstarch. Therefore, the Sommermeyer et al. patent does not remedy the deficiencies of the Arison et al. patent.

Given the above, a person of ordinary skill in the art, reading the Arison et al. and Sommermeyer et al. patents at the time Applicants filed, would neither have been motivated nor found it obvious to carry out the presently claimed methods. As such, the present claims are patentable over the combination of cited references.

In light of the above, Applicants respectfully request withdrawal of the rejection of claims 1-16 under 35 U.S.C. § 103(a).

Information Disclosure Statements

Applicants note that some of the references cited on the Forms PTO-1449 filed on were not initialed by the Examiner. In particular, references AH and AI on the Form PTO-1449 submitted on September 26, 2007, and references 7-16 on the Form PTO-1449 submitted on November 11, 2008 were not initialed. Copies of the partially initialed pages are attached hereto. Applicants respectfully request that the Examiner review the non-initialed references, and return a fully initialed copy of each Form PTO-1449 to the undersigned agent.

CONCLUSION

Applicants submit that claims 1-16 are in condition for allowance, which action is respectfully requested. The Examiner is invited to telephone the undersigned agent if such would further prosecution.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date:/February 10, 2009/

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